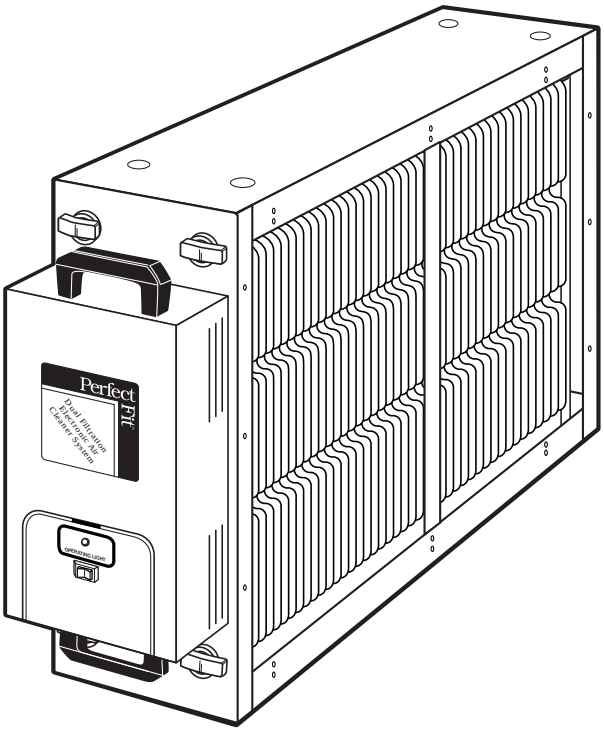
- Maintenance
- Operation
- Service

# Electronic Air Cleaner

# Owner's Use and Care




| MAINTENANCE/REPLACEMENT SCHEDULE | | | | |
|---|---|---|---|---|
| | Fan ON (Continuous) | | Fan AUTO | |
| Conditions | Dusty | Normal | Dusty | Normal |
| Cleanable Pre-Filter | 14-30 Days | 30-60 Days | 30-45 Days | 45-90 Days |
| Collector Cells | 1-2 Months | 3 Months | 3 Months | 6 Months |

For maximum efficiency, the air cleaner cells and the pre-filter should be inspected and cleaned on a regular basis.

The Maintenance Schedule is dependent on the amount of air passing through the filter as well as the amount of dust (pollen, smoke, etc.) in the air. This schedule shows estimated time periods and may be increased or decreased based on actual conditions.

32-5032-03
02/03

**Congratulations** - Your Electronic Air Cleaner is a modern, economical indoor pollution fighter. You should notice a marked improvement in your indoor atmosphere as your Electronic Air Cleaner begins removing those tiny airborne pollution particles, such as dust, pollen, and smoke from the air in your home.

### Home Care

Keeping your home furnishings clean is easier when the air is clean. Most of the dust and grime you must remove is drifting in the air. With your Electronic Air Cleaner operating in your home's environmental system, walls, windows, mirrors, draperies, and furniture stay cleaner longer. You should have a reduction in the soiling effect of these pollution particles on your home furnishings.

Most staining and soiling problems are caused by these minute particles. These particles are so tiny that they are only slightly affected by gravity, and can stick as easily to a wall as to the floor. The soiling of fabrics and the dull film on mirrors and windows are caused by these tiny particles. With your Electronic Air Cleaner operating, you should not have to clean them as often as before.

A small percentage of the larger visible particles in your home, such as large dust and lint, are too heavy to stay adrift long enough to be returned to the Electronic Air Cleaner. They settle out on horizontal surfaces and will have to be picked up by dusting as before, though perhaps not quite so often. These visible dust particles represent a small percentage of all the drifting particles in your home.

### Smoke

Smoke is comprised of submicroscopic particles. Collectively, these particles make up the familiar blue haze we all know. In dense concentration the particles form layers and can stay suspended on the air currents for hours. These particles will eventually settle out as a dulling film on mirrors and windows. Your Electronic Air Cleaner can remove nearly all of these particles before they have a chance to soil your home and its furnishings.

### Pollen

Pollens are also drifting particles, some which can be seen, but many are invisible to the eye. Your Electronic Air Cleaner removes almost all of the pollen particles circulated to it.

## *How the Electronic Air Cleaner Works.*

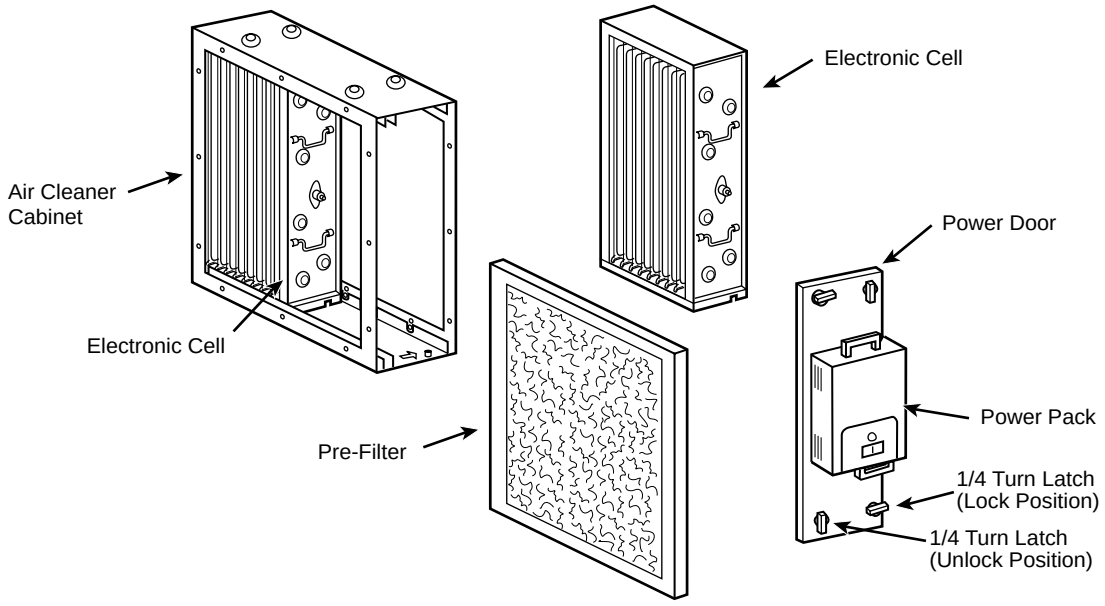



**Figure 1. Electronic Air Cleaner Cabinet with 1" Pre-Filter**

### Components

A. The cabinet is installed into the return ductwork of your air conditioning system.

B. The Power Door located on the front of the Cabinet, contains the electronic components that provide power for the Air Cleaner and allows the removal of the Electronic Cells and Pre-filter when cleaning is required. The On/Off switch and indicator light are located on the front panel of the Power Pack. The power cord plugs into the receptacle below the ON/OFF switch.

C. The Pre-filter catches large dust particles and lint before they reach the Electronic Cells.

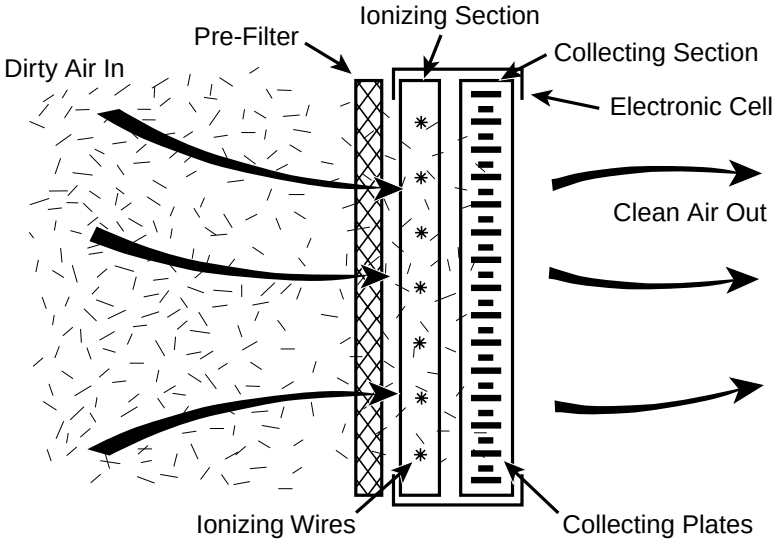
D. The Electronic Cells contain the ionizing grids and collecting plates which electronically remove the dirt, pollen, and smoke particles from the air passing through them.

## How It Works

The air in your home is circulated through your heating and/or cooling system, maintaining the temperature at a comfortable level. At the same time, the circulated return air is passing through the Electronic Air Cleaner. Millions of small dirt particles such as smoke and pollen, most of them so small as to be invisible, are carried by the returning air to the Electronic Air Cleaner.

To familiarize you with the operation of the Electronic Air Cleaner, here is a brief description of how “drift-dirt” is removed from the air electronically.

1. Drift particles in your home are carried to the Air Cleaner through the return air ductwork of your conditioning air system.
2. Lint, feathers, animal hair, and other large particles are trapped by the pre-filter.
3. Most of the drifting particles are too small to be captured by the pre-filter and pass into the ionizing field of the Electronic Cells where they are electrically charged.
4. As the air carries these charged particles into the collector section of the Electronic Cells, they are magnetically drawn against metal plates by the action of the powerful electrical field. This process is comparable to a magnet attracting iron filings.
5. These particles cling to the metal plates and the now filtered air passes on to the fan compartment of your conditioning air system before being recirculated through your house.
6. As additional “drifting dirt" particles are generated in your home, or infiltrated from outdoors, they are also carried to the Electronic Air Cleaner where they are collected.
7. Because particles collected on the cells are so small, the cells may not appear dirty. The cells should be cleaned according to the maintenance schedule.



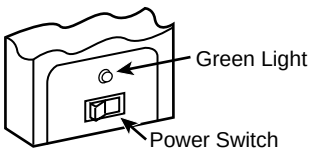

# *Electronic Air Cleaner Operation.*

## Fan & Filter Operation

Your Air Cleaner only operates when air is circulating through the unit; consequently, it operates only when the furnace or air conditioner fan operates. Your Air Cleaner can do more for you if the fan operates continuously. Most thermostats have a switch that will permit continuous fan operation. However, it must be understood that continuous fan operation will increase operating expense somewhat.

## On/Off Switch & Indicator Light

Your Electronic Air Cleaner has an air flow sensor that will provide power to the electronic cells when your conditioning air system fan is on. For fully automatic operation, just turn the switch on the front of the Power Pack “ON”. The Air Cleaner will be on whenever the fan runs.




## Indicator Lights

Your Electronic Air Cleaner has a green light on the front of the power pack that will be ON when the Electronic Air Cleaner is operating. This light should be ON whenever the fan is running and the switch is turned “ON’. If the fan stops running, or power to the Air Cleaner has been disrupted, the light will go out and remain off until the power has been reapplied.

## Operation

1. With power turned on at the circuit breaker and the system blower off, push the air cleaner ON-OFF switch to the “ON” position. The green light will turn ON for approximately ten seconds, then turn OFF.
2. With the blower running, the green light will be ON to indicate that the air cleaner is operating. An arcing or “snapping” sound may be heard occasionally. This is normal, and the unit is operating properly.
3. When the blower stops, the green light will turn OFF.

## Arcing (Snapping Or Popping)

Do not be concerned if the Air Cleaner snaps or pops intermittently. These sounds are caused by large particles entering the cleaner. Should this continue to the point of irritation, clean the pre-filter if dirty and remove the Electronic Cells and clean them **according to the directions.** Arcing (snapping and popping) may also occur when an Electronic Cell is still wet after washing or when it is very dirty. An increase in the frequency of the snapping noise may indicate that the cells need cleaning. **If Arcing Persists When the Cells are Clean And Dry, Consult Your Installing Or Servicing Contractor.**

# *Simple Maintenance Procedures.*

## Cleaning The Electronic Cells

For peak efficiency, the Electronic Cells in your Air Cleaner should be washed regularly (between one and six months). This is necessary to remove the deposits of dirt particles collected while running. Experience will be the best indicator of how often the cells should be washed.

### Removing The Electronic Cells And Pre-filter

**⚠ CAUTION To reduce the risk of electrical shock, disconnect power to the Air Cleaner before performing maintenance or service.**

1. At the thermostat, place the system switch to OFF and the fan switch to AUTO to assure that the air system will not turn on while cleaning.
2. Push the Electronic Air Cleaner power switch to the “OFF” position. Unplug power cord at the wall before removing the Electronic Cells. **If you are not familiar with this equipment, contact your installer or dealer.**

**⚠ CAUTION High voltage is present within the air cleaner for operation. Before removing the power door, wait at least 15 seconds to allow the power pack and electronic cells to discharge.**

3. Turn the latches on the power door 1/4 turn (open position) to unlock and remove the power door.
4. Remove the Pre-filter.
5. Slide the Electronic Cells out.

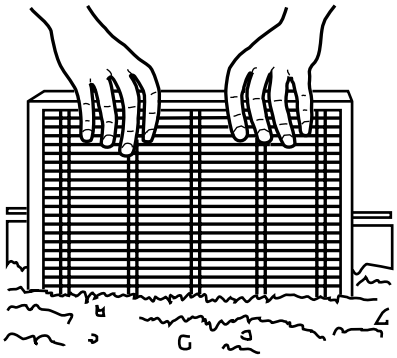
### Soaking

The dirt on the Electronic Cells can be removed by soaking in a strong solution of dishwasher detergent.

1. Use a container large enough to hold the Electronic Cells, such as a large plastic dishpan, trash container, or laundry tub.
2. Use an automatic dishwasher detergent in hot water. All major brands worked well in tests.

***NOTE:*** *Depending on the minerals in the water in your area, some brands of dishwasher detergent may form a precipitate of scum. If a noticeable scum floats to the surface, try another brand of detergent.*

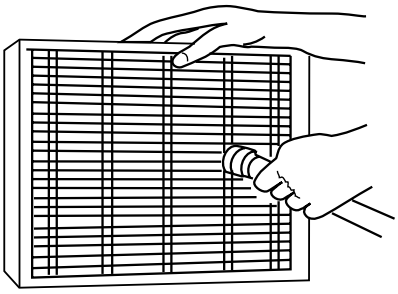
3. Pour into the container about 3/4 cup of detergent per cell. A bit more if the container is much larger than the cell. Pour in **enough very hot water** to cover the cells.
4. After the detergent has completely dissolved, put the cells in to soak.



5. Soak the cells and pre-filter for 15 to 20 minutes; slosh up and down, or around several times, and remove.

**⚠ CAUTION Be careful not to scald hands and arms when using very hot water.**

6. Rinse the cells and pre-filter with a fine lower pressure spray.



7. Soak the cells (only) in clean hot water for another 5 to 15 minutes.
8. Remove the cells and let drain for 15 to 20 minutes. If the water draining from the cells feels slippery, the cells need more rinsing.
9. Inspect the cells for cleanliness. If any dirt remains, repeat the washing procedure until clean.
10. Replace the cells and pre-filter into the Air Cleaner when dry.

*NOTE: If washing must* be *repeated, this is an indication that washing should be performed more frequently.*

### Replacing The Electronic Cells And Pre-filter

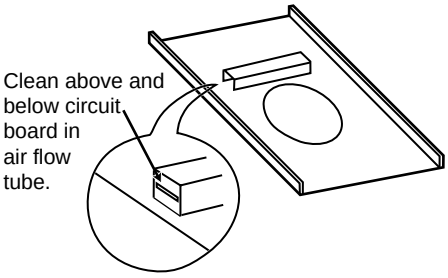
NOTE: A guide key in the Air Cleaner cabinet will allow the Electronic Cells to fit into the cabinet in only one position - with the arrow pointing in the direction of airflow.

1. Position cells correctly and slide them into place.
2. Insert the Pre-filter in the channel provided for it.
3. Replace the power door. Turn the latches 1/4 turn to secure the door.
4. Restore all power previously disconnected - See Item #2 under **Removing The Electronic Cells And Pre-filter**
5. Push the Electronic Air Cleaner switch to the “ON” position.

## Cleaning The Air Flow Switch

During normal maintenance, the air flow sensor tube may require cleaning to remove any accumulated dirt and dust.

To clean the tube, gently push a soft pipe cleaner into the tube above and below the printed circuit board. Gently blow into the tube to remove loosened dirt.

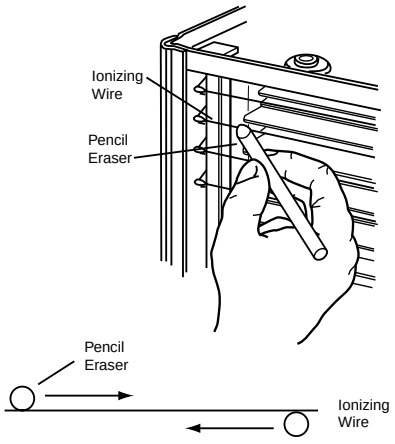



### Cleaning the Ionizing Wires

Ionizing wires may become coated causing loss of cleaning ability by the collecting cell and should be cleaned, at least, annually.

The thin ionizing wires are sharp and fragile. Use care when wiping the wires with the pencil eraser to avoid personal injury or broken wires. If an Ionizing wire breaks, refer to “Replacing An Ionizing Wire”.

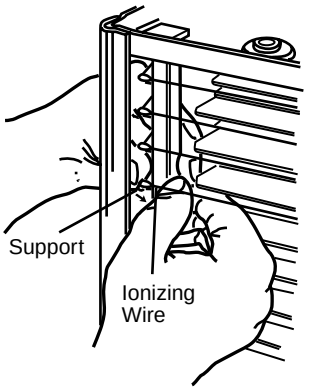
Using a pencil eraser, wipe each ionizing wire, exercising care to avoid damage to them.



## Replacing An Ionizing Wire

If an ionizing wire should break, it can be replaced as follows:

1. Remove all pieces of broken wire. Make sure supports at each end are in good condition and not bent out of shape.
2. Hook the new wire onto the support at one end.
3. Hold your finger against the support at the other end and hold the ionizing wire between thumb and forefinger as shown or use needle nose pliers. Press on spring and on wire loop until it slips over the end of the support. Make sure wire is securely anchored at each end.




## TROUBLESHOOTING

| INDICATION | SERVICE CHECKS | ACTION |
|---|---|---|
| ● On/Off switch “ON”<br>● Green light “OFF”<br>● Blower Off | None | Normal Standby Operation. |
| ● On/Off switch “ON”<br>● Green light “ON”<br>● Blower On | None | Normal Operation. |
| ● On/Off switch “ON”<br>● Green light “OFF”<br>● Blower On | AC Power is not being supplied to air cleaner.<br>1. Check that power cord is properly connected to power pack and to outlet.<br>2. Check for voltage at air cleaner outlet box. If none, check fuse or circuit breaker at power input line.<br>3. Check that fuse in power pack is not blown<br>4. Check for shorted collecting cell by installing power door with collecting cells removed and only pre-filter installed. If green light turns ”ON" cell is shorted.<br>5. Check for dirt or blockage in air sensor tube.<br>6. Check that pre-filter is installed and not damaged. | 1. Make proper power cord connections.<br>2. Replace fuse or reset circuit breaker.<br>3. Replace Fuse.<br>4. Wash cells. If short is not corrected, call for service.<br>5. Clean air sensor tube.<br>6. Replace damaged filter |
| ● On/Off Switch “ON”<br>● Green light flickering<br>● Blower On | 1. Check for dirty collecting cells. Check cells for any foreign object that might be lodged between plates of cell.<br>2. Check cells for broken ionizing wires, cracked insulator, or bent plates.<br>3. All ionizing wires must be completely clean with no dust build-up on wires. | 1. Remove cells and wash thoroughly.<br>2. Replace broken ionizing wires. Replace cell if insulator cracked or plates bent.<br>3. Clean ionizing wires. |

# LIMITED WARRANTY
# ELECTRONIC AIR CLEANER

*FE

(PARTS ONLY)

This limited warranty is extended by American Standard Inc., to the original purchaser and to any succeeding owner of the real property to which the Electronic Air Cleaner is originally affixed, and applies to products purchased and retained for use within the U.S.A. and Canada.

If any part of your Electronic Air Cleaner fails because of a manufacturing defect within five years from the date of the original purchase, Warrantor will furnish without charge the required replacement part. Any local transportation, related service labor, mechanical filters and diagnosis calls are not included.

This limited warranty does not cover failure of your Electronic Air Cleaner if it is damaged while in your possession, damage caused by unreasonable use of the Electronic Air Cleaner and/or damage from **failure to properly maintain** the Electronic Air Cleaner as set forth in the Use and Care manual (**see Proper Maintenance section**).

This limited warranty applies to product installed on or after 10/1/2001 where product is manufactured after 1/1/2000. This limited warranty is not retroactive to any installations prior to 10/1/2001 or on product produced before 2000.

**THE LIMITED WARRANTY AND LIABILITY SET FORTH HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES, WHETHER IN CONTRACT OR IN NEGLIGENCE, EXPRESS OR IMPLIED, IN LAW OR IN FACT, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR USE, AND IN NO EVENT SHALL WARRANTOR BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

Some states do not allow limitations on how long an implied limited warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Parts will be provided by our factory organization through an authorized service organization in your area listed in the Yellow Pages. If you wish further help or information concerning this limited warranty, contact:

American Standard Inc.
Troup Highway
Tyler, TX 75711-9010
Attention: Manager, After Sales Support

GW-633-1802

*(First letter may be preceded by an “A” or “T”)